



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,637	04/30/2001	Tomohiro Amano	71992-55871	3957

7590 07/21/2003
Dike, Bronstein, Roberts & Cushman
Intellectual Property Practice Group
Edwards & Angell
P.O. Box 9169
Boston, MA 02209

EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT PAPER NUMBER

2871

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

'Office Action Summary

Application No.

09/845,637

Applicant(s)

AMANO, TOMOHIRO

Examiner

Prasad R Akkapeddi

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee (U.S. Patent No. 5,936,687).

As to claims 1-2: Lee discloses a liquid crystal display device with data signal lines (30) consisting of recurrently formed first, second, and third lines that have open ends (Fig. 6), first diodes (d9) formed on the first lines and second diodes (d10) formed on the second lines and having an opposite polarity to the first diodes, wherein the data signal lines are so formed as to permit a short-circuiting bar (52) for supplying testing voltages to be put in contact with the data signal lines at portions thereof nearer to the ends thereof than the first and second diodes. Lee also discloses that the data signal lines are so formed as to permit a short-circuiting bar for supplying testing voltages to be put in contact with the data signal lines at portions thereof farther from the ends thereof than the first and second diodes (Fig.6) as recited in the instant claim 2.

As to claims 3-4: Lee discloses a liquid crystal display device with a plurality of data signal lines (D1-D4), test signal lines (52-55) consisting of recurrently formed first, second, and third lines that are each connected to one of

the data signal lines and have open ends (Fig. 7), first diodes (d12) formed on the first lines and second diodes (d15) formed on the second lines and having an opposite polarity to the first diodes, wherein the test signal lines are so formed as to permit a short-circuiting bar for supplying testing voltages to be put in contact with the test signal lines at portions thereof nearer to the ends thereof than the first and second diodes (Fig. 7). Lee also discloses that the test signal lines are so formed as to permit a short-circuiting bar for supplying testing voltages to be put in contact with the test signal lines at portions thereof nearer to the data signal lines than the first and second diodes (Fig. 7).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee.

As to claims 9-10: Lee discloses a device and a method for testing a liquid crystal display device with data signal lines (30) consisting of recurrently formed first, second, and third lines that have open ends (Fig. 6), first diodes (d9) formed on the first lines and second diodes (d10) formed on the second lines and having an opposite polarity to the first diodes. Lee discloses a method for testing the display including the method of applying direct voltages (0-10V) to the shorting

lines (col. 9, lines 9-11), formed either near or farther from the ends, applying test signal to these shorting lines (col. 9, line 19-20). Although Lee shows in the Figures, that the shorting lines and the data signal lines nearer and farther from the ends and also shows that various voltages are applied to these shorting lines. However, the specific steps as recited in these instant claims would have been obvious to one having an ordinary skill in the art such that a liquid crystal display can be provided with improved electrostatic discharge (ESD) protection that increases the ability to test display quality (col. 2, lines 36-40).

As to claims 11-12: Lee discloses a device and a method for testing a liquid crystal display device having a plurality of data signal lines (D1, D2, D3, D4) used for data entry, test signal lines (52-54) consisting of recurrently formed first, second, and third lines that are each connected to one of the data signal lines and have open ends (Fig. 7), first diodes (d12) formed on the first lines; and second diodes (d14) formed on the second lines and having an opposite polarity to the first diodes. Lee discloses a method for testing the display including the method of applying direct voltages (0-10V) to the shorting lines (col. 9, lines 9-11), formed either near or farther from the ends, applying test signal to these shorting lines (col. 9, line 19-20). Although Lee shows in the Figures, that the shorting lines and the test signal lines nearer and farther from the ends and also shows that various voltages are applied to these shorting lines, Lee does not disclose the specific steps as recited.

However, the specific steps as recited in these instant claims would have been obvious to one having an ordinary skill in the art at the time the invention was made such that a liquid crystal display can be provided with improved electrostatic discharge (ESD) protection that increases the ability to test display quality (col. 2, lines 36-40).

5. Claims 5-8 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Kim et al. (Kim) (U.S. Patent No. 6,246,074).

a. Lee discloses several data signal lines. However, Lee does not disclose data signal lines for red, green and blue colors. Kim in disclosing a thin film transistor substrate with a test circuit for a liquid crystal display cell, discloses red data signal lines (32R), green data signal lines (32G) and blue data signal lines (32B).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the red, green and blue data signal lines to provide a TFT matrix substrate and a testing method having a test circuit that is capable of accurately detecting the breakdown of gate lines and data lines and static electricity preventing means for a color liquid crystal display (col. 2, lines 21-28).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

Art Unit: 2871

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

July 13, 2003


TOANTON
PRIMARY EXAMINER